

The copper plate serves also to direct the bubbles upward into the tubular portion of the burette. As the water is evaporated by the shoot, the exact amount can be read off, by means of the graduations of the burette. The entire apparatus may be supported by an ordinary burette stand.—C. R. B.

EDITORIAL NOTES.

LUDOVICO CALDESI died at Faenza, Italy, in May last.

GEO. BENTHAM died Sept. 10, at the age of 84.

G. B. DELPONTE, late Professor of Botany in the Univ. of Turin, Italy, is dead.

D. APPLETON & Co. have announced a new series of science text books, including botany.

DR. LARS MAGNUS LARSSON, author of several valuable floras, died in July at Karlstad, Sweden.

IT IS stated in Müller's *Eucalyptographia* that $1\frac{1}{2}$ parts of Eucalyptus oil in 1000 parts of fluid prevents the development of bacteria.

THE NEW BIOLOGICAL laboratories of the University of Pennsylvania are expected to be ready for occupancy in November.

DR. GRAY, Mr. John Ball and Mr. Wm. Canby took a botanical trip to Roan Mountain after the close of the American Association.

PROF. C. E. BESSEY, of Ames, Iowa, has been tendered the chair of botany in the University of Nebraska, and it is rumored that he will accept.

L. H. BAILEY, JR., is writing a series of "Talks About Weeds" for the *American Cultivator*. The fertility of the Canada thistle is discussed in No. 11.

AN IMPORTANT treatise on fungi by Dr. de Bary has just been issued under the title *Vergleichende Morphologie und Biologie der Pilze, Mycetozoen und Bacterien*.

THE JAPANESE government has made a large and interesting exhibit, both botanically and economically, of the native ligneous flora and its products, at the International Forestry Exhibition now in progress at London.

THE JAPANESE make toothpicks from the wood of the common snowballs, (*Viburnum Opulus*), rope from the stems of the Chinese *Wistaria*, and oil from the seeds of *Camellia Japonica*.

EXPERIMENTS made by A. Adrianowsky of Moscow, given in a late number of the *Botanisches Centralblatt*, showed that diffused daylight had no influence upon the germination of seeds but to retard the process, and the older the seeds the greater the retardation.

A CONSIDERABLE amount of interesting botanical literature annually finds its way into the reports of agricultural and horticultural societies. The following has just come to hand: "A grain of corn," by Prof. C. R. Barnes, in Rep. Ind. Bd. of Agric., 1884. "Two parasitic fungi" and "Functions of the leaf," by Dr. C. E. Bessey, and "Mildew of growing plants," by Prof. J. C. Arthur, in Trans. Iowa Hort. Soc., 1883.

DR. GRAY'S paper before the British Association at Montreal was one of the five papers which only will be printed in full in the Proceedings of the Association.

PROF. LESTER F. WARD has published in the Proceedings of the Biological Society of Washington a list of 41 species, to supplement his Flora of Washington.

PROF. FEDERICO DELPINO, well known for his numerous studies on the fertilization of flowers by insects, has accepted a call to the chair of botany in the Univ. of Bologna.

THE BRITISH ASSOCIATION devotes £1,515 the present year to the aid of scientific research, of which biology receives £515, or rather zoology, for not a penny is given to botany.

DR. ASA GRAY, together with several other British and American visitors to the British Association in Montreal, was the recipient of the honorary degree of LL. D. from McGill University.

THE DELIVERY of certain scientific works to the subscribers to circulating libraries of Russia, among which are the writings of Darwin, Huxley, Agassiz, Lubbock and Spencer, has been interdicted by Imperial decree.

A NEW *Saprolegnia* is figured by W. G. Smith, in the *Gardener's Chronicle* for August 23 of current year. It forms an abundant white felt over the gills of bedding mushrooms, and produces oospores only when placed in water.

THE COMMON YARROW, *Achillea Millefolium*, L., as we learn from Mr. Caruthers, of the British Museum, is so much relished by cattle in England, and kept so closely cropped that it is rarely to be seen in pastures, which is contrary to experience in this country.

THE BULLETIN OF THE TORREY BOTANICAL CLUB for August contains a "List of Cyperaceæ," collected by the late Mr. S. B. Buckley in the valley of the Rio Grande, in Texas and northern Mexico. *Cyperus Buckleyi*, *C. oxycarioides* and *Heliocharis Texana* are described as new species.

UNDER THE NAME of Blue Mountain tea, Mr. Meehan, in the *Gardener's Monthly* for September, states that the leaves of *Solidago odora* are quite extensively used as a beverage. It has upon its own merits come to have a commercial value, being sold in the Chicago markets and elsewhere.

THE BOTANICAL PAPERS read at the British Association at Montreal were as follows: On the identification of animals and plants of India which are mentioned by early Greek authors, by V. Ball; On the Jessup collection to illustrate the forestry of the U. S. in the New York Natural History Museum, by A. S. Bickmore; Notes on the occurrence of bacteria on coins, by L. Elsborg; Remark on the characteristic features of North American vegetation, by Asa Gray; Result of the investigation of insular floras, by W. B. Helmsley; On the diatomaceous remains in the lake deposits of Nova Scotia, by A. H. Mackay; Observations on the trapping of young fish by *Utricularia vulgaris*, by H. N. Moseley.

FROM *Hedwigia* we learn that Baron von Thümen has been obliged on account of his failing health to remove to Görz, Austria, and to discontinue much of his mycologic work. He has concluded to offer the few remaining complete sets of his *Mycotheca Universalis* (Centur. I-XXII) at 200 marks, being sixty-four marks less than the regular price.

NUMBER TEN of the Memoirs of the University of Tokio is entitled "Phytochemical Notices of Some Japanese Plants," by Prof. J. F. Eykman, of the medical faculty. The following species have been studied: *Andromeda Japonica*, *Scopolia Japonica*, *Macleya cordata*, *Chelidonium majus*, *Nandina domestica*, *Orixa Japonica*, and *Skimmia Japonica*. The memoir is in German.

THE "LOCO WEED," or one of them at least, is *Astragalus mollissimus*, Torr., according to Prof. T. C. Porter in the *Gardener's Monthly*. Experiments were performed by Dr. Isaac Ott, of Easton, Pa., during 1882, with infusions of this plant received from Western Kansas, and the same effects produced as the stock men of that region ascribe to it. Its active principle is doubtless a powerful poison.

WHILE ATTENDING the American Association, we had the pleasure of examining a number of both the original drawings and proofs of the plates for Prof. Beal's new work on grasses, and found them of superior quality. The artist is Prof. F. L. Scribner, the agrostologist, whose excellent work should bespeak for him the patronage of other botanists. The engraving is by the Levytype process.

PROF. DR. ALEXANDER FISCHER VON WALDHEIM, President of the Imperial Society of Naturalists in Moscow, died on July 13, at the age of eighty-one years. He is best known in this country by his studies on the development of the *Ustilagineae*. A translation of an important contribution on this subject to Pringsheim's *Jahrbücher für Botanik* appeared sometime ago in the Report of the N. Y. Agric. Society.

A NEW MYCOLOGICAL journal is talked of, we hear. It is to bear the highly appropriate name *Schweinitzia*, and like the Italian journal *Michelia*, to be devoted to the publication of new species, and the collected descriptions of particular groups. We wish the enterprise the heartiest support, and suggest that all, who are interested in it, manifest their appreciation by communicating with Mr. J. B. Ellis, Newfield, N. J.

AN INTERESTING description of Michaux's garden at New Durham, N. J., is given by Mr. H. H. Rusby in the *Torrey Bulletin* for August. The site is now largely occupied by a cemetery, and almost no relic remains, the buildings as well as the trees and shrubs having disappeared. The original boundaries, and position of the principal objects were pointed out by the descendants of Michaux's associate, Saunier, who are now living in the vicinity.

THE AMERICAN MICROSCOPICAL JOURNAL warmly endorses the effort of the American Association to create a greater interest in fungous diseases of plants. It says: "The subject is one well worthy of liberal assistance; the

work is of peculiar difficulty, requiring constant attention on the part of the observer, and it is not only necessary to have special laboratories properly furnished for it, but skillful and experienced observers must be engaged, who can give their entire attention to the work." The necessity for Government aid is urged.

THE EDITORS of "Drugs and Medicines of N. A.," J. U. and C. G. Lloyd, find it necessary to begin the issue of a four-page supplement to that publication, in which they can make known any new facts, *addenda et corrigenda*, answer questions, collate and present notes, etc. In the first number they ask botanists for information regarding the geographical distribution, local names, abundance, situations, etc., of the following plants: *Hydrastis Canadensis*, *Coptis trifolia*, *Aconitum uncinatum*, *A. reclinatum*, *Xanthorrhiza apiifolia*, *Actæa spicata*, var. *rubra*, *A. alba*, *Cimicifuga racemosa*, *C. Americana*. Address 180 Elm street, Cincinnati, O.

A BUREAU of scientific information has been formed in Philadelphia, composed of officers and members of the Academy of Science, whose duty shall be the imparting, through correspondence, of precise and definite information upon the different departments of science. The organization is purely voluntary, and should not be imposed upon by trivial questions, or those containing no postage for returning the answer. We notice the following names in various branches of botany: Thomas Meehan, *Exotic and Cultivated Plants*; J. H. Redfield, *Ferns and N. Am. Phænogams*; J. T. Rothrock, *Vegetable Physiology*; F. L. Scribner, *Grasses*. The Secretary of the Bureau is Prof. Angelo Heilprin, who may be addressed at the Academy of Sciences.

CURRENT LITERATURE.

Synoptical Flora of North America. By Asa Gray, LL. D., etc. Vol. I.—Part II. *Caprifoliaceæ-Compositæ*. New York: Ivison, Blakeman, Taylor & Co.

Botanists will have a great sense of relief at the appearance of this very important and very difficult volume. The great order of *Compositæ*, to which it is chiefly devoted, has long needed a thorough revision by a master, and no one could possibly have had the whole subject so completely in hand as our author. This elaboration of some of our very complex genera of *Compositæ* is the result of time, and travel, and severe study, and is the matured, as well as probably the most valuable of the many contributions to North American Botany that have issued from Cambridge. To say that it will enhance a reputation already the greatest in American botany seems almost superfluous.

A general key to all the gamopetalous orders prefaces the volume, and in the whole matter of typography there is such an evidence of long experience that it leaves little to be desired. If an American botanist can have but one set of books on systematic botany in his library it should undoubtedly be this. An enumeration of a few of the more striking changes adopted or suggested must occupy the remainder of this notice.

Among the *Caprifoliaceæ* *Sambucus pubens*, Mx., becomes *S. racemosa*, L.; *Symphoricarpos* must end in "os," *S. montanus* of the west becoming *S. oreo-*